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Severity of Trauma as Predictor of Long-term Psychological Status in Survivors of Torture

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Abstract — Severity of trauma as a predictor of long-term psychological functioning was examined in 55 tortured political ex-prisoners in Turkey. The assessments included semistructured interviews and measures of anxiety, depression, and posttraumatic stress disorder. The severity of torture was assessed by measures of number of types of torture, number of exposures to torture, duration of captivity, and perceived distress. The survivors reported a mean of 23 different forms of torture and a mean total of 291 exposures to torture during their captivity. Despite severity of trauma, the number of exposures to torture did not predict posttorture psychological problems, whereas ratings of perceived distress did. Implications of these findings for theory and classification of psychological trauma and for legal practices concerning torture survivors are discussed.

INTRODUCTION

Study of torture not only serves a useful social and political purpose by promoting awareness of this human rights problem but can also provide valuable

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insights into the psychological processes of traumatization. Başoğlu and Mineka (1992), in their review of experimental models of anxiety, depression, and posttraumatic stress, have suggested that the human experience with probably the closest parallels to experimental models in animals is the experience of humans undergoing torture. However disturbing these parallels might be, a better understanding of the ever increasingly sophisticated (and psychological) forms of torture in the world today and their effects on individuals is essential in recognizing and combatting the problem. Such understanding can also be useful in identifying principles of effective treatment, not only for survivors of torture, but also for survivors of other traumas in general.

Severity of traumatic stressor as a determinant of subsequent stress responses has received much attention in work with trauma survivors. It was found to be a significant predictor of posttraumatic stress disorder (PTSD) in most studies of combat veterans (Foy, Sipprelle, Rueger, & Carroll, 1984; Foy, Edward, & Donahue, 1987; Foy & Card, 1987; Laufer, Gallops, & Frey-wouters, 1984; Breslau & Davis, 1987; Green & Berlin, 1987; Green, Lindy, Grace, & Gleser, 1989; Green, Grace, Lindy, Gleser, & Leonard, 1990; Speed, Engdahl, Schwartz, & Eberly, 1989). A similar dose-effect relationship has been noted in victims of rape (Steketee & Foa, 1987), volcanic eruption (Shore, Tatum, & Vollmer, 1986), fire disaster (Green, Grace, & Gleser, 1985), and urban violence (Pynoos et al., 1987), and in battered women (Kemp, Rawlings, & Green, 1991).

Few investigations have studied the stressor dose-response relationship in torture survivors. Although some studies of former POWs (Miller, 1992; Speed et al., 1989) have examined the impact of torture among other stressful events during captivity, no study has yet examined the effects of torture itself at different levels of severity.

Social and political environments in which torture is widespread are also characterized by other potentially traumatic forms of repression and violence. In examining the impact of torture, therefore, the effects of related stressors have to be taken into account. As most studies of torture survivors have been uncontrolled and involved refugees (Goldfeld, Mollica, Pesavento, & Faraone, 1988; Somnier, Vesti, Kastrup, & Genefke, 1992), definitive conclusions concerning the long-term effects of torture per se are not possible. No study has yet attempted to examine the relative impact of torture, controlling for other stressors during and after the trauma.

The present report is based on a controlled comparison of 55 tortured and 55 nontortured political activists in Turkey (Başoğlu et al., 1994). This study avoided some of the methodological problems of earlier studies by using closely matched controls, standard assessments, and established diagnostic criteria. We selected a nonrefugee group to avoid the confound of refugee status. The study found greater levels of traumatization in torture survivors relative to controls, independent of other stressors during and after the period during which torture took place.

In the present report we examined the effect of *severity* of torture on subsequent psychological functioning. We tested the following hypothesis: long-term psychological responses to torture in torture survivors will be predicted by the severity of trauma as defined by the number of types of torture endured, the frequency of exposures to torture, the duration of captivity, and the perceived severity of torture.

This report focuses on the severity of torture as a predictor of long-term psychological functioning. An examination of all predictors on which data are available is reported elsewhere (Başoğlu, Paker, Taşdemir, Özmen, & Şahin, in press).

METHOD

Details of the method and procedures were reported in a previous article (Başoğlu et al., 1994) and will therefore only be summarized here. The study was announced in the media through articles in newspapers and political journals. Survivors of torture, regardless of their political allegiance, were invited to participate in the study. The study group consisted of 55 left-wing political activists who had been tortured during detention and/or imprisonment in the late 1970s and throughout the 1980s in Turkey. Fifty survivors were referred to the study by human rights organizations in Istanbul and five were self-referred. All study participants signed a consent form that explained the aims of the study in detail. Strict confidentiality was emphasized. Of the 58 referrals, none refused to be interviewed at all, though three failed to attend the second interview. The account of torture was validated by independent information from the referring source in 50 survivors. The interviews were conducted by two psychologists and four psychiatrists trained in the use of semistructured instruments.

Assessment

Information on personal history and details of prison and torture experience were obtained using Semi-structured Interview for Survivors of Torture (SIST) based in part on Jackson Interview Form (Keane, Scott, Chavoya, Lamparski, & Fairbank, 1985) and Exposure to Torture Scale, part of SIST.

Psychiatric status was assessed by using the Structured Clinical Interview for DSM-III-R (SCID; Spitzer & Williams, 1983). Other measures included: Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Standardized Turkish version, Hisli, 1987), State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970; Standardized Turkish version, Öner & LeCompte, 1982).

In addition to the clinical ratings above, Number of PTSD symptoms since trauma (based on the SCID) was selected for analysis. The SCID diagnosis of PTSD was not used as a categorical variable (present/absent) to avoid loss of information and statistical power (only 10 survivors had PTSD).

Predictor variables: measures of torture severity. These measures were derived from the Exposure to Torture scale, which consists of a list of forms of torture commonly used throughout the world. This scale was devised for work with torture survivors to improve the reliability and validity of the information elicited about past torture experience. A structured interview facilitates recall of the details of past torture experience and thereby elicits more reliable information than do open-ended questions.

The scale provides information on forms of torture endured, number and duration of exposures, and subjective distress ratings related to each form of torture (1 = no/minimal distress, 4 = extremely distressing). For example, if a survivor reports electrical torture, the number of times of exposure to electrical torture, duration of exposures, and the survivor's rating of the distress he/she experienced during this form of torture are recorded.

Three measures of torture severity were derived from the scale: (a) *N* of forms of torture(total number of forms of torture reported by the survivor), (b) *N* of exposures to torture (total number of exposures to all forms of torture), and (c) Total Distress score (sum of all distress ratings). Duration of specific forms of torture was not included in the analyses, as data were not available for all forms of torture. However, duration of captivity (total time spent in detention and imprisonment) was included as an additional measure of torture severity since the survivors' accounts indicated that torture was routine throughout the period of detention and imprisonment. Furthermore, there was a significant correlation between duration of captivity and total number of exposures to torture ($r = .49$, $p < .001$). Thus, longer captivity meant more torture.

Data Analysis

Pearson correlation analyses examined the relationship between measures of torture severity and clinical ratings. Multiple regression analyses (stepwise) examined which torture severity measures predicted posttrauma symptoms.

RESULTS

Sample Characteristics

Twenty-five (45%) survivors were female and 30 were male. The mean age was 31 (*SD* 5.5). Twenty-six (47%) survivors were married. All survivors had at least one detention, while 89% had at least one imprisonment. The survivors had been detained for a mean 39 days (*SD* 31, range 1–135) and imprisoned for mean 48 months in total (*SD* 56, range 0–164). The mean time since release from prison was 41 months (*SD* 43, range 2–143). Last incident of torture had occurred a mean of 61 months ago (*SD* 45, range 3–145).

Before captivity, 84% of the survivors were fairly or fully committed to a political cause; only 16% were somewhat or not at all committed, being accidentally involved in political activity. All survivors were fairly well informed about the practice of torture in their country prior to its occurrence.

Only two survivors had current major depression. Eighteen (33%) survivors had PTSD at some stage after the torture, while 10 (18%) had current PTSD.

Mean number of PTSD symptoms since last torture was 6 (*SD* 4.4). The symptoms were moderately severe; no survivor had severe PTSD. Mean anxiety and depression ratings were within normal range.

Severity of Torture

The forms of torture and the total number and duration of exposures are shown in Table 1.

Survivors reported a mean of 23 (*SD* 7, range 9–41) different forms of torture. Fifty-one percent of the survivors were subjected to 25 different forms of

TABLE 1

Forms of Torture: Frequency, Total Number, and Duration of Exposure

Forms of torture reported	% of survivors	Total N of exposures Mean (SD)	Range	Total duration Mean (SD)
Verbal abuse*	100	–	–	–
Beating	100	43 (43)	1-100	–
Blindfolding	96	23 (26)	1-70	–
Alternating gentle/harsh treatment	93	18 (19)	1-50	–
Threats of further torture	85	30 (22)	1-50	–
Forced standing	87	7 (8)	1-25	7.3 hrs (6.2)
Prevention of personal hygiene	82	16 (20)	1-45	104 days (258)
Pulling by hair	78	4 (3)	1-10	–
Electrical torture	78	10 (10)	1-35	19 mins (17)
Witnessing torture	74	25 (30)	1-70	5.3 hrs (7)
Threats of death	73	39 (32)	1-70	–
Stripping naked	71	15 (19)	1-50	2.7 hrs (4.2)
Prevention of urination/defecation	71	22 (25)	1-60	–
Isolation	67	5 (11)	1-60	46 days (94)
Sleep deprivation	65	3 (4)	1-13	34 days (88)
Restriction of movement	62	3 (4)	1-15	20 days (43)
Falaqa	62	12 (12)	1-35	29 mins (25)
Deprivation of medical care	62	9 (12)	1-32	211 days (383)
Exposure to extreme heat or cold	60	9 (12)	1-41	5.9 days (9.1)
Threats of rape	58	6 (6)	1-15	–
Denial of privacy	56	7 (9)	1-25	80 days (213)
Threats against family	53	19 (13)	1-30	–
Infested surroundings	53	3 (3)	1-10	–
Food deprivation	51	3 (4)	1-20	5 days (4)
Hanging by wrists	51	8 (8)	1-25	20 mins (12)
Exposure to loud music	45	22 (25)	1-60	7.7 hrs (7.4)
Water deprivation	44	5 (8)	1-30	2.5 days (2)
Cold showers	42	8 (11)	1-50	15 mins (14)
Blows on ears	40	4 (6)	1-20	–
Sham executions	38	3 (2)	1-10	–
Forced standing with weight on	33	7 (6)	1-15	29 mins (47)
Fondling of genitals	31	5 (7)	1-20	–
Asphyxiation	24	3 (2)	1-8	–
Submersion in water, feces, vomit	16	3 (3)	1-10	9 mins (11)

(continued on next page)

TABLE 1—*CONTINUED*

Forms of torture reported	% of survivors	Total N of exposures Mean (SD)	Range	Total duration Mean (SD)
Exposure to bright light	13	1 (.8)	1-3	44 mins (39)
Excrement in food	13	9 (8)	2-20	--
Burning	9	3 (2)	1-6	--
Rope bondage	9	9 (10)	2-20	24 mins (9)
Throwing of feces/urine at detainee	9	1 (.9)	1-3	--
Stretching of extremities	5	2 (1)	1-3	6 mins (6)
Needles under toenails or fingernails	5	1 (.6)	1-3	--
Twisting testicles	5	7 (6)	2-13	--
Rape	4	1 (0)	1-1	--
Others	53	3 (3)	1-12	--

* Information not available as reliable estimate of N of exposures could not be made

torture. The mean total number of exposures was 291 (*SD* 222) and ranged between 24 and 822. The torture events took place during mean 47 months of captivity (*SD* 56, range 1 day–166 months).

The "others" category in Table 1 includes less frequent forms of torture, each reported by 1 or 2 survivors. Examples were attempts to insert an object into anus/vagina, being forced to torture others, witnessing torture of family, and sexual advances.

Social Support

In assessing social support (psychological, economic, and legal), the survivor's own evaluation and degree of satisfaction was taken into account. During captivity, 51 (93%) of the survivors received very much/much support from at least one group of significant others (spouse, relatives, friends). The respective figures for postimprisonment phase were 47 (86%).

Correlation Between Stress Measures and Clinical Ratings

Table 2 shows the Pearson correlation coefficients between the stress measures and clinical ratings.

Only the rating of perceived distress (Total Distress score) significantly correlated with number of PTSD symptoms. Duration of captivity showed negative correlations with all clinical ratings, reaching significance on STAI-State. Longer imprisonment thus related to less anxiety at assessment.

Correlations Between Measures of Torture Severity

Total Distress score showed a highly significant correlation with number of forms of torture ($r = .81, p < .001$). This was because the former was derived from the latter by summing up the distress scores for all forms of torture.

TABLE 2

CORRELATIONS BETWEEN MEASURES OF SEVERITY OF TORTURE AND CLINICAL RATINGS*

	N of forms of torture	N of total exposures	Total Distress score	Duration of captivity
N of PTSD symptoms	.25 (.07)	.04 (.80)	.42 (.001)	-.16 (.24)
Beck Depression	-.14 (.30)	-.08 (.58)	.08 (.56)	-.26 (.06)
STAI-State Anxiety	-.23 (.09)	-.19 (.17)	-.07 (.61)	-.32 (.02)

* p values in parentheses

Despite this high correlation, only Total Distress score correlated significantly with the number of PTSD symptoms ($r = .42$, $p < .001$), though a trend towards significance was noted for number of forms of torture ($r = .25$, $p = .07$). This finding suggested that the traumatic impact of torture was mediated through subjective appraisal of events rather than by mere cumulative effects of repeated exposures.

The mean time since last torture did not significantly correlate with any of the clinical measures. The only exception was STAI-State ($r = -.30$, $p < .05$), which may be due to chance. Severity of current symptoms was thus not related to the length of time since torture.

Multiple Regression Analyses

Multiple regression analyses were performed (stepwise) using all 4 stress measures as independent variables and each clinical rating in turn as the dependent variable. Stepwise method checks repeatedly whether (a) any variable not in the equation should be entered, according to the criterion *probability of F-to-enter* (PIN); and (b) any variable in the equation should be removed, according to the criterion *probability of F-to-remove* (POUT). The values used for PIN and POUT were .05 and .10, respectively.

Using number of PTSD symptoms as the dependent variable, only two variables entered the equation (percentage of variance explained in parentheses): Total Distress score (16%, $\beta = .42$, $t = 3.4$, $p < .001$) and duration of captivity (7%, $\beta = -.28$, $t = -2.3$, $p < .05$). Thus, only perceived severity of torture and duration of captivity predicted number of PTSD symptoms. Longer duration of captivity related to fewer PTSD symptoms. Using the Beck Depression Inventory as the dependent variable, no variables entered the equation. In the third regression analysis duration of captivity explained 8% of the variance in STAI-State ($\beta = -.32$, $t = -2.43$, $p < .05$). Longer duration of captivity related to less subsequent anxiety.

In summary, our hypothesis was only partially supported in that PTSD symptoms were predicted by the perceived severity of torture but not by the total number of exposures to torture.

DISCUSSION

The findings of the present study need to be interpreted together with those of a previous report (Başoğlu et al., 1994) that showed that severe torture induced moderately severe stress symptoms and no anxiety or depression in our study group. Eighteen of the 55 survivors had PTSD some time after the trauma and only 10 had current PTSD. In human research on the learned-helplessness phenomenon (Mineka & Kelly, 1989), exposure to uncontrollable stressors of a much milder nature was sufficient to induce anxiety or depression. Furthermore, many people are severely affected by much milder traumas. Several factors, discussed below, may account for this finding.

Unpredictability and uncontrollability of stressors play an important role in the origins and maintenance of fear and anxiety (Mineka & Kelly, 1989). Torture was neither a totally unpredictable nor uncontrollable event for most survivors in our study. They had prior knowledge of what it involved and were psychologically prepared for its occurrence. They may have also used effective coping strategies to avoid loss of control during torture. Effective coping combined with repeated exposures to torture may have immunized them against traumatic stress induced by torture. Prior learning that one has control over aversive stimulation can immunize the organism against the later effects of exposure to uncontrollable stressors (Başoğlu & Mineka, 1992).

In addition, survivors had no difficulty in finding an explanation for their experience, a factor important in emotional processing of the trauma (Foa, Steketee, & Rothbaum, 1989). They were clearly aware of the purpose of torture as a means of political repression and knew exactly why they were targeted for this kind of treatment. Most were highly committed to their political cause and regarded torture as a price they had to pay in their struggle for a better world.

Strong social support may also have provided some protection from the traumatic effects torture. Without such protection, symptom intensities might have been higher than those observed in our study. This is consistent with the findings of other studies that point to the importance of posttrauma social support (Barrett & Mizes, 1988; Foy, Resnick, Sipprelle, & Carroll, 1987; Kadushin, Boulanger, & Martin, 1981; Keane et al., 1985; Solomon, Mikulincer, & Hobfol, 1987)

Longer stay in prison appeared to be a protective factor against anxiety, depression, and PTSD. While duration of captivity and PTSD were unrelated in some studies of POWs (Thygesen, Hermann, & Willanger, 1970; Speed et al., 1989) and concentration camp survivors (Matussek, 1975), no study found longer captivity to be related to better psychological health. This finding may be explained by the availability of opportunities for emotional support and sharing of traumatic experiences with friends and comrades in prison. In addition, survivors were able to transform their captivity into a meaningful experience by ardently continuing their political struggle in the prison at a time when most political activities were banned in the country.

There is general agreement in the literature that the severity of trauma is an important factor in the etiology of PTSD (Foy, Edward et al., 1987; Lindy, Green, & Grace, 1987). How can our results be reconciled with the findings of previous studies? The most likely explanation concerns the nature of our sample. Our sample may have been different from those in most other studies in having the protective characteristics discussed above. Cross-cultural differences in the perception of trauma may also have played a role in determining psychological responses to torture. Some survivors, for example, who were beaten up by the police during interrogation did not regard their treatment as torture. Furthermore, many torture methods, which would be regarded as highly traumatic by the ordinary person, were rated as only slightly or moderately stressful by the survivors. This is consistent with other observations that what is perceived as torture varies widely across cultures (Mollica & Caspi-Yavin, 1992).

In addition, there was considerable within-group variability in the perception of events as stressful. Subjective distress ratings indicated that the survivors differed in their perception of particular torture events as traumatic. Thus, summing up all potentially stressful events without regard to their subjective impact may not yield a reliable index of trauma severity. The trauma survivors in other studies may have been more homogeneous with respect to their perception of events as traumatic, in which case other measures of trauma severity (e.g., number of events and frequency of exposures) would be expected to parallel subjective distress ratings more closely.

A problem concerning the measures of trauma severity is the possibility of, distortions in retrospective recall. Although the interview questions clearly referred to how the survivors felt about torture *then* and not at the time of assessment, there may still have been problems in the recall of the nature and frequency of torture events. Depression at the time of assessment, however, seems unlikely to have affected retrospective evaluaton of torture experience, since the survivors were not depressed and anxiety/depression scores did not significantly correlate with subjective distress ratings.

That only perceived distress predicted long-term psychological functioning supports the view that trauma may be a "threshold" variable rather than a cumulative or additive variable (Zeiss & Dickman, 1989). Indeed, beyond a certain threshold, increased duration and frequency of torture appeared to have no additional impact. This finding suggests that nonlinear relationships may exist between trauma and its impact, a point that could be investigated in further research efforts.

The association between perceived distress during torture and subsequent psychological problems may in part reflect vulnerability to traumatic stress. The latter may have enhanced the subjective impact of torture in some survivors. This explanation is also consistent with the finding of an association between family history of psychiatric illness and posttorture psychological functioning (Başoğlu et al., 1994).

Our findings may also have implications for legal practice concerning torture survivors. This important issue, although not directly related to the main focus of the present report, deserves attention here. The definition and severity of torture often become important issues in legal cases involving political asylum applications and compensation claims. Often important decisions are influenced by the assumption that the degree of psychological disability reflects the severity of the trauma. Asylum applicants, for instance, can make a stronger case if they can evidence the severity of their torture.

This assumption may lead to problems in decisions concerning two groups of survivors: those who have survived severe trauma with minimal or no sequelae and those who are severely traumatized as a result of apparently mild trauma. The first group may have difficulty evidencing past torture while the second may not be able to provide a convincing account for the severity of disability. Both groups may come across as malingerers for different reasons. Subjective aspects of the trauma should be given due consideration to avoid errors in the assessment of such cases.

An important limitation of our study is the select nature of our sample. Due to referral biasses, survivors with greater resilience to traumatic stress and better psychological health may have been overrepresented in our study group. This may have led to an underestimation of the effects of torture and obscured a possible relationship between severity of torture and subsequent stress responses. Further research should also involve nonpolitical survivors with no prior psychological preparedness for torture.

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